Butler's Gartersnake

Conservation Plan

for the Spencer's Pass

Residential Development,

Village of Menomonee Falls, Wisconsin

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1. Background

Spencer's Pass is a residential development in the Village of Menomonee Falls. In 2004 the Wisconsin Department of Natural Resources (WDNR) reviewed permit applications for the project, and determined that suitable habitat for the Butler's Gartersnake (*Thamnophis butleri*), a State Threatened Species, exists on the project site. The WDNR determined that, a) the proposed wetland fill associated with this project (road crossing the wetland on the western parcel) would isolate the snake habitat to the south and east of the crossing location from the larger snake habitat patch to the north, and b) the proposed wetland fill will constitute a Taking of the species, and therefore require an Incidental Take Authorization (email communication Geri Rademacher, WDNR, 18 Oct 2004), under the state Endangered Species Law (s. 29.604, Stats.) This statute prohibits the taking of animal species listed as Endangered or Threatened anywhere that they occur in Wisconsin. The law does allow the WDNR, at its discretion, to authorize the taking of individuals of listed species that otherwise is prohibited by the law if the following conditions apply:

a) The taking will not be the purpose of, but will be only incidental to, the carrying out of a lawful activity.
b) The party requesting taking authorization will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking.
c) The taking will not appreciably reduce the likelihood of the survival or recovery of the endangered species or threatened species within the state, the whole plant-animal community of which it is a part, or the habitat that is critical to its existence.
d) The benefit to public health, safety or welfare justifies the activity.

The WDNR recommends that snake habitat loss be compensated for by restoring an equal amount of habitat along the southern edge of the large wetland complex bordering the north project boundary. In order to facilitate this approach, WDNR has requested a determination of the area of suitable snake habitat loss caused by the project, and a plan to restore an equal amount of habitat. When a plan is accepted, an Incidental Take Authorization may be issued with a public notice period that may be combined with the Chapter 30/Wetland fill notice.

This conservation plan maps existing snake habitat, details snake habitat mitigation measures, provides guidelines for managing snake habitat in perpetuity, and provides reasonable mitigation efforts to minimize snake mortality during construction.

2. Assessment

2.1 Existing Conditions

Existing snake habitat was mapped following WDNR guidance (Appendix A). The overall potentially suitable habitat available on the landscape forms a patch in excess of 100 acres (Figure 1). Most of this habitat is poor quality, being comprised of monotypic reed canary grass (*Phalaris arundinacea*) stands, but there are small patches of moderate to good quality habitat inclusions in both the wetland and upland components, where sedge meadow or grassland appear. Under current WDNR guidance, a suitable habitat patch of this size is considered to be of Significant Conservation

Value (Tier 3) to the Butler's Gartersnake regardless of habitat quality.

2.2 Estimated Habitat Impacts

The project is estimated to eliminate approximately 1.0 acres of existing habitat, and will isolate approximately 2.5 acres of existing habitat into a separate habitat patch. This totals 3.5 acres of effectively lost habitat acreage subject to in-kind mitigation (Figure 2).

3. Butler's Gartersnake Conservation Plan

The project will create approximately 4.3 acres of new suitable snake habitat in areas currently in agriculture. The project will also restore and enhance approximately 2.4 acres of existing poor quality, and temporarily impacted (by project grading) habitat. This total of approximately 6.7 acres will be subject to a restoration and management plan in perpetuity (Figure 3, Appendix B).

3.1. Conservation Plan Elements

3.1. 1. Avoid and Minimize:

a. The project plans have been adjusted to the maximum extent practicable to avoid disturbance of suitable Butler's Gartersnake habitat.

b. To minimize take, the project proposes to erect snake exclusion fencing at the limits of work as per WDNR guidance. Trenched-in silt fencing will be installed approximately as shown in Figure 4, by 20 March 2005 (weather permitting) to prevent snakes from entering the project site once snakes emerge from hibernation. Fence ends will follow the WDNR snake "turn-around" design (Figure 5). Fences will be inspected three times per week on non-consecutive days, and maintained in good repair, throughout the snake's active period (March 16 - November 5), or until construction ends. Fence maintenance crews will be trained on fence inspection and repair specific to snake exclusion by a consulting herpetologist, and said consultant will periodically spot check fence condition. Repairs will be made within 24 hours of discovery.

3.1. 2. Mitigate: The project proposes a Butler's Gartersnake habitat restoration and management plan with the following components. Westridge Builders, Inc., agrees to commit sufficient funds to contract a reputable restoration ecologist to carry out the first 5 years of habitat establishment and management, and thereafter proposes to establish a homeowners association agreement to maintain the habitat in perpetuity, with homeowners association fees sufficient to accomplish the management objectives.

a. The graded areas within the snake habitat preserve (New and Enhanced habitat areas in Figure 3) will be seeded with an appropriate seed mix, and be established into an appropriate native grassland plant community over 5 years, through an appropriate adaptive management plan (Appendix B).

b. A deed restriction or easement will be attached to the parcels within the snake habitat preserve to prevent development therein, and to require that habitat management

therein be in accordance with WDNR Butler's Gartersnake management guidelines, for so long as the snake is listed as a Threatened or Endangered Species.

c. A Spencer's Pass Homeowners Association will be responsible for maintaining as *suitable habitat* (as defined in Appendix A) any portion of the snake habitat preserve it owns in perpetuity (or until such time as the Butler's Gartersnake is no longer protected under the Endangered Species Act), by controlling woody vegetation via any of the following methods:

i. Burning: Fire may be used to manage Butler's Gartersnake habitat only during the hibernation period, which generally runs from November 1 through late March. Early springs encourage early emergence as do warm falls delay the onset of hibernation. As such, seasonal variations from the norm will be considered when making a determination whether or not to burn in mid- to late March or in early November. Conversely, cool weather can shorten activity periods for snakes in both spring and fall. If this is the case, the following guidance will be used to determine whether burns outside of the recommended window are acceptable. Spring: If daytime highs have been regularly below 50º F and/or frost is still evident in the ground, burns in early April may be conducted. To check for frost, a metal probe will be inserted in several places at the wetland/upland interface (just outside the ordinary high water mark) but not in the wetland. Fall: If daytime highs have been regularly below 50º F for several consecutive days and the day of the burn has similar temperatures (high in 40's) burns may be conducted in October.

ii. Mowing: Mowing may be done in a patch rotation, with no more than 33% of the available grassland habitat affected in any one year. To further minimize mowing mortality, it will be done when weather conditions are most likely to avoid snake activity (during the hottest period of the day when sunny conditions prevail and air temperatures exceed 80º F, or on very cool, overcast days when temperatures are below 50º F). Mower blades will be set a minimum of 10 inches off the ground, since grasses maintained under 8 inches are less likely to provide useful habitat for this species.

iii. Hand cutting: Brush-cutting by hand may be performed at any time of year.

iv. Grazing: Grazing may be done in rotations among habitat patches, with no more than 33% of the available habitat grazed in any one year. Grazing will be discontinued in a patch as soon as 50% of the grasses and forbs in a grazed patch are cropped to 8 inches in height, in order to avoid having patches that do not provide adequate cover for snakes.

v. Herbicide: Hand application of herbicides to cut stems (such as glyphosate applied by brush) may be performed at any time of year. Aerial or backpack spray applications will only be used when snakes are in hibernation, if at all.

4. Figures

This map is not available for public viewing because it contains the location of sensitive Natural Heritage Inventory Data that are exempt from the Wisconsin Open Records Law (s. 23.27 (3)(b) Stats.).

Figure 1: Estimated Existing Butler's Gartersnake Habitat Spencer's Pass Development. Casper Consulting, 14 March 2005.

This map is not available for public viewing because it contains the location of sensitive Natural Heritage Inventory Data that are exempt from the Wisconsin Open Records Law (s. 23.27 (3)(b) Stats.).

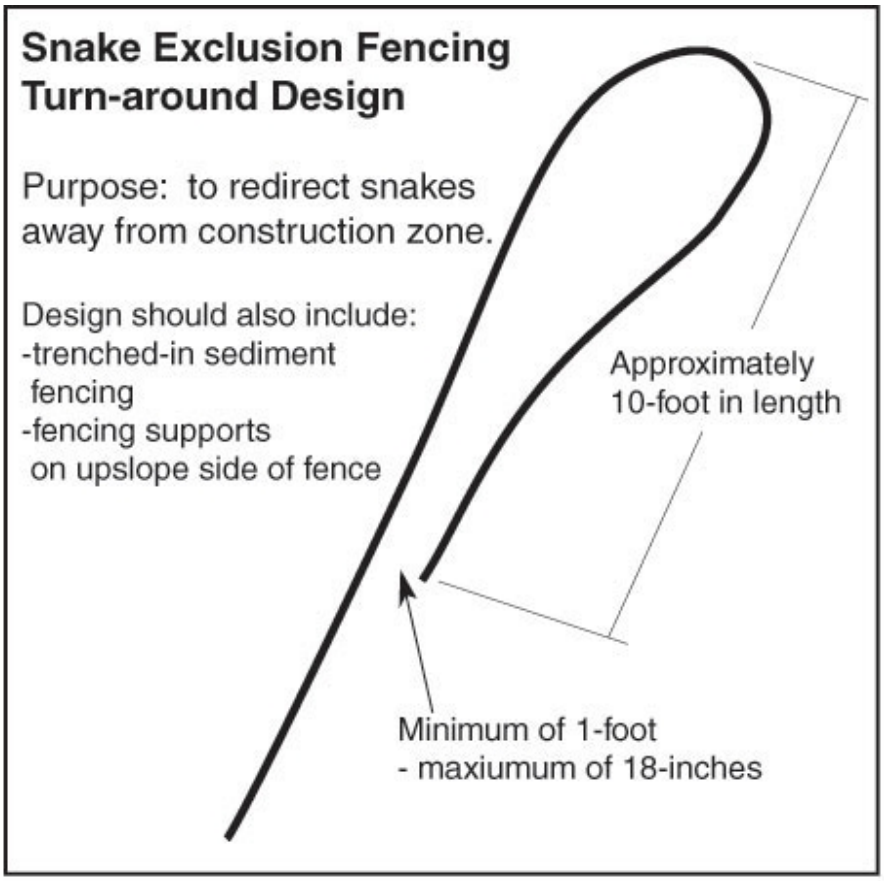
Figure 2: Estimated Butler's Gartersnake Habitat Impacts. Spencer's Pass Development. Casper Consulting, 14 March 2005.

This map is not available for public viewing because it contains the location of sensitive Natural Heritage Inventory Data that are exempt from the Wisconsin Open Records Law (s. 23.27 (3)(b) Stats.).

Figure 3: Conservation Plan. Spencer's Pass Development. Casper Consulting, 14 March 2005.

This map is not available for public viewing because it contains the location of sensitive Natural Heritage Inventory Data that are exempt from the Wisconsin Open Records Law (s. 23.27 (3)(b) Stats.).

Figure 4: Fencing Plan. Spencer's Pass Development. Casper Consulting, 14 March 2005.



Turn-around Design
for Snake Exclusion Fencing
for the Butler's gartersnake
2/28/2005 *Source: Wisconsin DNR*

Figure 5: Turn-around design for fence snake exclusion fence ends.

Appendix A

(source: Wisconsin Department of Natural Resources, 6 March 2005
- http://www.dnr.state.wi.us/org/land/er/review/butler/definitions.htm)

Definitions of terms used in the Conservation Strategy for the Butler's gartersnake.

Suitable Habitat Patch:

This is defined as undeveloped areas that include both wetland and adjacent upland habitat. The patch size is not limited to the acreage of the project site only but may continue beyond the project site where suitable habitat is contiguous. To be considered as potential Butler's Gartersnake habitat:

- The wetland habitat may be any classification except permanent open water. Lakes, streams, and deep ponds are not considered suitable, nor are permanent stormwater management ponds. A 100' edge of forested wetland where it abuts or is adjacent to suitable upland habitat is also considered suitable, as crayfish burrows are likely to be present in this habitat.
- The upland habitat must be within 300 feet of over-wintering wetlands AND have intact ground vegetation (grasses, forbs) AND have less than 75% canopy closure. The upland habitat must be directly connected to the wetland in at least one location. Closed canopy forests where ground vegetation is very sparse are not considered suitable, but old fields with significant invasion of woody shrubs and trees is suitable if grasses and forbs are still largely intact. Lawns and fields in active agriculture row crops or in crop rotation are not considered suitable. Fields that remain fallow for more than one year may be considered suitable habitat. Pastures will be included as suitable habitat if more than 50 percent of the acreage had an eight-inch or greater canopy height.

Suitable Habitat Patch:

Poor: Habitat is considered to be poor quality if more than 75% of the wetland habitat component is dominated by dense cattail (*Typha* sp.) beds or dense stands of exotic species (i.e. reed canary grass, *Phalaris arundinacea*; purple loosestrife, *Lythrum salicaria*; giant reed grass, *Phragmites* sp.); and/or more than 75% of the ground cover (grasses and forbs) in the upland habitat component is relatively sparse and likely to become sparser through ongoing natural succession.

Moderate: Habitat is considered to be moderate quality if 50-75% of the wetland habitat component is dominated by dense cattail (*Typha* sp.) beds or dense stands of exotic species (i.e. reed canary grass, *Phalaris arundinacea*; purple loosestrife, *Lythrum salicaria*; giant reed grass, *Phragmites* sp.); and/or 50-75% of the ground cover (grasses and forbs) in the upland habitat component is relatively sparse and likely to become sparser through ongoing natural succession.

Good: Habitat is considered to be good quality if less than 50% of the wetland habitat component is dominated by dense cattail (*Typha* sp.) beds or dense stands of exotic species (i.e. reed canary grass, *Phalaris arundinacea*; purple loosestrife, *Lythrum salicaria*; giant reed grass, *Phragmites* sp.); and/or less than 50% of the ground cover (grasses and forbs) in the upland habitat component is relatively sparse and likely to become sparser through ongoing natural succession.

Isolated:

A site that does not exchange genetic material with other sites, due to being physically separated from other suitable habitat patches. Barriers may include impassable physical structures (paved roads, parking lots, walls), or resistant terrain (mowed lawns, golf courses, forests, agriculture). Resistant terrain is land use that a snake could still physically pass through, but would do so only occasionally, with risk of predation, desiccation, and lack of shelter from the elements. Where resistant terrain connects suitable habitat patches, resistant terrain of over 1000 feet should be considered an impassable barrier.

Appendix B

Habitat Restoration and Management Plan
[attached Cedarburg Science plan]